

Tracking Endangered Fish

Using the Patterns or Binary Code

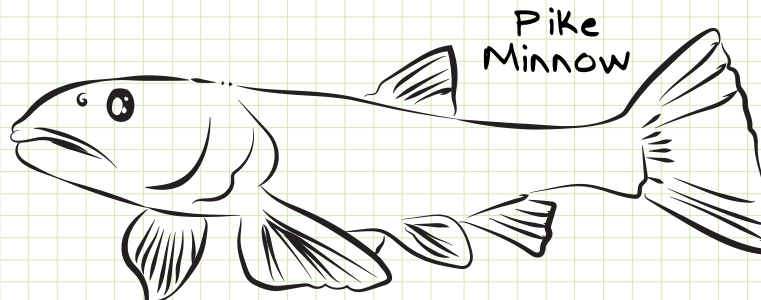
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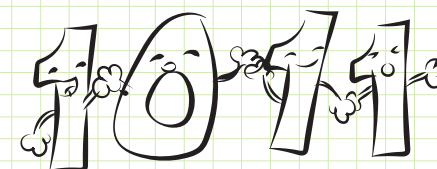
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Razorback Sucker



Pike Minnow



The Razorback Sucker and the Pike minnow are endangered fish living in the San Juan River in the lands of the Navajo, which are the Native American people of the four corners area of the USA. Ecologists concerned with protecting these species of fish track their movements by tagging the fish with radio tags. Binary patterns in the radio tags help them identify where the fish are and how they move and live.

Binary patterns are unique patterns made of only two things, like a 1 and a 0. You could make a binary pattern out of anything, letters, numbers or even fruit or cereal. You can make binary patterns out of two letters to make funny words and sounds.

Make binary patterns

Make as many patterns as you can using the letters "m" and "o"

Using one letter per pattern

Example: o

m

You can make 2 unique patterns

Using three letters per pattern

MOO OOO

MOM OOM

MMO OMO

MMM OMM

You can make 8 unique patterns

Using three letters per pattern

OOOO OMOM MOMO

OOOM OMMO MOMM

OOMO OMMM MMOO

OOMM MOOO MMMO

OMOO MOOM MMMM

You can make 16 unique patterns

Using two letters per pattern

Example: oo MO

OM MM

You can make 4 unique patterns